XALTIUS
Towards Higher Excellence

It's all about Analytics!

Data Analysis with PowerBI

Microsoft PowerBI is a very widely used BI tool with many organizations and departments and being able to produce a quick analysis is an asset. This course should be attended by those who want to learn data storytelling using PowerBI as a platform.

www.xaltiusacademy.com

Start your data science journey with us.

There is no pre-requisite required to attend this course.

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A short course in 16 hours.

What You'll Learn

This course provides participants with the knowledge and skills to work with and analyze data and work with business cases using Microsoft Power BI. This course will allow participants to use Power BI Desktop to connect to various data sources, shape the data, and use data models to create reports. Through this Power BI course, participants can learn that Power BI Desktop centralizes, simplifies, and streamlines what can otherwise be a scattered, disconnected, and arduous process of designing and creating business intelligence repositories and reports.

Learn how you can put your data to good use.

About the Course

These are the key takeaways that participants will gain:

- Connect to, import, and transform data from a variety of sources
- Define business rules and KPIs
- Create interactive visuals
- Understanding Business Intelligence
- Build informative dashboards
- Work with various business cases

It's about your goals & your future!

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Course Outline

Module 1: Introduction to PowerBI

This module takes through the journey of how it all began and what constitutes analytics and business intelligence along with the strength of how PowerBI bridges the gap between users and business insights.

- Exploring Window and playing with cells
- A quick history of Business Intelligence and Analytics
- The development of Self-Service Business Intelligence
- Introducing the Power BI suite
- Power BI Service, Power BI desktop & Power BI Mobile
- Introduction to Data Sources
- What Data Sources can be used with PowerBI

Module 2: Data Normalization and Tables

Non optimized data tends to slow down visualizations and makes the process messy. This module will recap a few concepts of data normalization and the basic normal forms of data along with the main types of tables that should exist in a dataset.

- What is Data Normalization?
- Normalizing a dataset
- Understanding Fact and Dimension Tables

Module 3: Working with Data and Defining a Business Case

Before using any tool for data visualization and analytics, it is important to be data literate, understand the nature of the data, what the data consists of and also define the format of the data to make it suitable for analytics.

- Understanding data and defining business problem
- Creating tables of data to use in PowerBI

Module 4: PowerBI Desktop – The Tool, Data Models and Relationships

This module introduces PowerBI Desktop and how it can be used to make data ready for further visualization and analytics. Preparing the data is a pivotal part of any data analytics lifecycle.

- Introducing PowerBI Desktop
- Connecting to a data source
- Building a data model
- Setting the properties of data
- Loading Table Relationships
- Creating and Deleting Relationships
- Using Query Editor

Module 5: Column, Data and Date Transformations

Transformations are an integral part of the data pre-processing stage. PowerBI allows for various kinds of transformations to be done within the tool itself. This module focuses on the transformations which are important from the perspective of data and the business case.

- Adding custom columns
- Duplicating, renaming, splitting columns
- Creating conditional columns
- Changing Data Types
- Filling and replacing values
- Extract various components of date/time
- Filtering dates

Module 6: Data Analysis Expressions (DAX)

DAX are expressions or formulas that are used for data analysis and calculations. These expressions are a collection and combination of functions, operators, and constants that are evaluated as one formula to yield results (value or values). DAX formulas are very useful in BI tools as they help data analysts to use the data sets they have to the fullest potential. In this module we will learn some of the important DAX functions.

- Introduction to DAX
- Creating simple SUM measures
- Creating columns using the IF functions
- Simple DAX functions
- Using the X functions

Module 7: Creating Visualizations and Formatting

In this module, we will first understand what are the different types of possible visualizations and the business insights that could potentially be obtained from each type of chart/graph. It is important to understand what each visualization signifies in order to make the right choice while building a report. Visualizations are as good as they are made to look. It is important to know how to format your visualizations to have them convey the right information to the stakeholders. In this module, we will cover the various formatting options available for different visualizations.

- Overview of Visualizations
- Creating and working with Visualizations
- Creating a Bar Charts, Column Charts, Line Charts and other visualizations
- Understanding Focus Mode
- Axes, Data Labels, Titles & Data Colours
- Backgrounds and Borders
- Aligning visualizations
- What is the right size for a visualization?

Module 8: Working with Filters

While working with data and visualizations, it is very important to be able to narrow down what you see to make information easier to decipher. Filtering is an operation which helps you do that. This section deals with all possible and right ways to apply filters to data.

- Creating a Slicer
- Understanding and using the visualization pane for filtering
- Creating Visual Field filters
- Creating Top N Filters
- Adding page level filters

Module 9: Advanced Visualizations

There could be cases where users would require plotting multiple dimensions in a visualization. For such cases we would need to look towards more advanced visualizations. This module covers some of those visualizations and how one can choose the right visualization when it needs to be plotted.

- Create Map Based Visualizations
- Create a Gauge and Tree Map Visualizations
- Importing Custom Visualizations
- How do you choose the right visualization?

Module 10: Understanding Visual Interactions

For business users, different visualizations need to have a controlled behavior when certain actions are done on the report or other visualizations. This module walks through the different types of visual interactions available and used.

- Why are Visual Interactions used in PowerBI? Why are they useful?
- Types of Visual Interactions
- Using Visual Interactions across visualizations

Module 11: Reports in PowerBI

In order to present our findings, we need to put everything together to form meaningful visualizations which can give us valid and important business insights. This section deals with how we can put various visualizations together to form a report, along with using additional features.

- Creating a report
- Adding Multiple Pages to your Reports
- Building a narrative in your report
- Adding Shapes, Images & Text Boxes to reports
- Using Natural Language Queries to make Visualizations
- Create a Visual using Q&A
- Understanding and using Quick Insights

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